

U.S.S.N. 09/584,012

2

PD-200031

REMARKS

Applicants wish to thank the Examiner for considering the present application. In the Final Office Action dated June 29, 2005, Claims 1-18 are pending in the application. The Applicants respectfully request the Examiner for reconsideration.

Claims 1, 4, 6-9, 14, 16, 17 and 18 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over *Naidu*, et al. (5,805,983) in view of *Kao* (6,175,737).

Claim 1 was amended in a previous response to emphasize the role of the central processing hub in that the central processing hub provides time delays to the radiated signal so that they arrive coherently at the mobile terminals. In the return direction, the signals transmitted from mobile users are compensated at the central processing hub, not by the mobile terminals. This allows the mobile terminals to be simple so that no compensation for time delays on the return link at the mobile terminal needs to be performed. Likewise, the individual transponding nodes are also advantageously simple and, thus, do not have to compensate for time delays therein. The time delays are compensated for in the central processing hub. The present claims are different than the distributed antenna system described in the *Naidu* reference. The present application coherently adds the radiated signals from the individual transponding nodes. Thus, if one of the signals from the one of the nodes (of which there would be typically many), only gradual degradation would be formed. The time delays are added to each of the signals at the central processing hub to compensate for time delays so the signals arrive at the same time at the mobile terminals.

The *Naidu* reference is very different than that of the present application. The *Naidu* reference is directed to a distributed antenna network that employs compensating time delays along each of the transmission paths (Col. 1, lines 38-41). Admittedly, the delay compensators may be in the central units. The areas of the specification pointed to by the Examiner in Col. 5, lines 14-59, Col. 6, lines 29-45, and Col. 2, lines 35-65, provide good teachings. The Applicants also direct the Examiner to the background of the invention, Col. 1, lines 10-25. From this it is clear that the goal of the *Naidu*

U.S.S.N. 09/584,012

3

PD-200031

reference is very different than that of the present application. That is, the *Naidu* reference uses various antennas 100₁-100_n that are spaced apart from each other, e.g. in different cells like that shown in Fig. 1). The goal of the *Naidu* reference is to have each of the antennas transmit at the same time. The delay compensation blocks 115 and the delay detection blocks 110 are used to compensate for various path length differentials in each of the paths 102. The goal of the *Naidu* reference is to transmit from each of the antennas at the same time by compensating for the delay factors in each transmission line. This is contrasted by the present application that radiates with compensating time delays so that a mobile terminal receives the signals at the same time so that they are added together coherently. The *Naidu* reference is not capable of this aspect because the delays are focused before the antenna. Also in the present invention, the central processing hub processes the return signals from the mobile terminals to compensate for path delays from the mobile terminals. The time compensation blocks 115 of the *Naidu* reference do not perform this function. The paths of the *Naidu* reference compensate for the path lengths to the antenna rather than the path lengths from a remote mobile terminal. A mobile terminal in the *Naidu* environment due to its ever-changing distances from the antennas could not be compensated for by the relatively fixed delays set forth therein. This is significantly different than that of the present application. In short, because of these differences, coherent addition of the radiated signals at a mobile terminal using the teachings of *Naidu* is simply not possible. The *Kao* reference also does not teach or suggest such limitations.

Claims 4 and 6-7 are dependent upon Claim 1 and are allowable for the same reasons set forth above.

Claim 8 is a method claim and has similar distinguishing features as Claim 1. That is, both the pre-processing and post-processing steps are set forth in Claim 8. As mentioned above, this is very different than that of the *Naidu* reference. Applicants therefore respectfully submit that independent Claim 8 is also allowable for the same reasons set forth above.

U.S.S.N. 09/584,012

4

PD-200031

Claims 9 and 14 are also allowable for the same reasons set forth above with respect to Claims 1 and 8.

Claim 16 is directed to a mobile wireless communication system. Claim 16 also has similar limitations to that of Claim 1 in that the mobile terminal receives signals from each of the plurality of individual transponding nodes coherently and thereafter simultaneously generating a return signal. The central processing hub processes the return signal to compensate for path length differentials. Applicants respectfully believe that Claim 16 is also allowable for the same reasons set forth above with respect to Claims 1 and 8.

Claims 17 and 18 are dependent upon Claim 16 and are also believed to be allowable for the same reasons set forth above.

Claims 2, 10 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Naidu* in view of *Kao* as applied to Claim 1 above, in further view of *Christian* (5,361,398). The *Christian* reference does not teach the deficiency with respect to the *Naidu* reference. That is, the *Christian* reference does not teach or suggest the pre-processing and post-processing aspects not found in the *Naidu* reference. Applicants therefore respectfully submit that Claim 2 is also allowable for the same reasons set forth above.

Claims 10 and 15 depend from Claim 8 and are also believed to be allowable for the same reasons set forth above with respect to Claims 2 and 8.

Claims 5 and 11-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Naidu* in view of *Kao* and *Ibanez-Meier* (5,949,766). The *Ibanez-Meier* reference also fails to teach or suggest the missing elements now recited in independent Claims 1, 8 and 16.

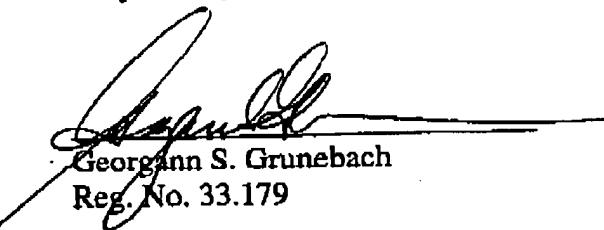
In light of the remarks above, Applicants submit that all objections and rejections are now overcome. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, the Examiner is respectfully requested to contact the undersigned attorney.

U.S.S.N. 09/584,012

5

PD-200031

Respectfully submitted,



Georgann S. Grunebach
Reg. No. 33.179

Date: August 4, 2005

The DIRECTV Group, Inc.
2250 E. Imperial Highway
El Segundo, CA 90245
310-964-4615